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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,698	08/31/2001	Manabu Ohta	0154/01025	2143

27197 7590 10/06/2003

CHERSKOV & FLAYNIK  
THE CIVIC OPERA BUILDING  
20 NORTH WACKER DRIVE, SUITE 1447  
CHICAGO, IL 60606

EXAMINER

RODRIGUEZ, ISABEL

ART UNIT PAPER NUMBER

2836

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/944,698

Applicant(s)

OHTA ET AL.

Examiner

Isabel Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/31/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 8 is/are rejected.
- 7) ☒ Claim(s) 3-7,9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizuno et al (US 6,011,416).

Regarding claim 1, Mizuno et al. discloses a rare short circuit determining device for determining whether a rare short circuit, which results from the generation of heat exceeding a predetermined value, has occurred in a load circuit, the rare short circuit determining device comprising a sensor(3) for detecting a load current., which flows through the load circuit, and for generating a detection  
Signal (6); and a determining circuit (4) connected to the sensor for determining whether a rare short circuit has occurred, wherein the determination circuit calculates one of a first parameter

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and a second parameter every predetermined time interval based on the detection signal, the first parameter relating to a first time period during which the load current exceeds a predetermined reference current value, and the second parameter relating to a second time period during which the load current is less than or equal to the predetermined reference current value, wherein the determining circuit cumulates the calculated one of the parameters every predetermined time interval to calculate a cumulative parameter value and determines whether a rare short circuit has occurred based on the cumulative parameter value. See fig. 2.

Regarding claims 2 and 8, Mizuno et al. discloses the rare short circuit determining device according to claim 1, wherein the determining circuit is connected to a shutdown circuit for stopping the supply of the load current from a power supply to the load circuit, and wherein the determining circuit controls the shutdown circuit to stop supplying the load circuit with the load current when it is determined that a rare short circuit has occurred. See fig. 2.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4, 6, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al. in view of Deb (US 5,933,355).

a) Regarding claims 3-4, 6, 9-10, Mizuno et al. discloses a rare short circuit determining device but does not disclose that the first parameter is one of joule heat and arc heat and the

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second parameter is radiated heat. Deb discloses modeling temperature based on currents and known quantities such as joule heat and heat loss. See col. 20 lines 52-60. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use joule heat and heat loss to calculate temperature because it is a known method of modeling temperature.

b) Regarding claims 5 and 7, Mizuno et al. in view of Deb discloses the rare short circuit determining device wherein the determining circuit is connected to a shutdown circuit for stopping the supply of the load current from a power supply to the load circuit, and wherein the determining circuit controls the shutdown circuit to stop supplying the load circuit with the load current when it is determined that a rare short circuit has occurred. See fig. 2.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isabel Rodriguez whose telephone number is 703-305-4761.

The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 703-308-3119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7704 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

IR  
October 1, 2003

  
BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

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